

BETTONVILLE et al
Appl. No. 10/581,796
September 24, 2008

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REMARKS/ARGUMENTS

Reconsideration of this application is requested. Claims 1-10, 12 and 13 are in the case.

I. THE OBVIOUSNESS REJECTION

Claims 1-10, 12 and 13 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Dupire et al. (EP 1201711) (Dupire) in view of U.S. Patent Publication No. 2004/0191440 to Funaki et al. (Funaki). That rejection is respectfully traversed.

As claimed, the invention provides a pressure pipe resin comprising from 90 to 99.9 wt%, based on the total weight of the resin, of a polyethylene, and from 0.1 to 10 wt%, based on the total weight of the blend, of an ionomer. It is noted that the claimed invention is limited to a "pressure pipe". This is defined in the specification as "a pipe having a pressure rating of PE 80 and above" (page 1, lines 22-23). The PE 80 rating is explained in the description, and essentially defines any pipe which can withstand a hydrostatic pressure of at least 8MPa for 50 years at 20°C (page 2, lines 1-5). Such high pressure pipes are typically used for transporting gas, and PE 80 is a high level performance standard which is required in the industry.

Based on the above explanation, it will be appreciated that pipes fulfilling the above definition are completely different from, for example, hoses used in automobiles. The fact that a resin can be made into a "pipe", such as for use in automobiles, gives no information about whether it would be suitable as a "pressure pipe". In fact, it is extremely unlikely to be suitable, as pressure pipes are a highly specialized application.

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The surprising discovery underlying the present invention is that addition of an ionomer to polyethylene used in pressure pipes gives rise to improvement in the long-term creep performance of the polyethylene, and can therefore result in pressure pipes with improved properties. This discovery is not suggested by the cited references when taken singly or in combination.

Dupire discloses a "pressure pipe" resin having good resistance to slow crack growth and improved long-term creep performance, but is silent with regard to the use of an ionomer. The Action then states:

"Duprie (sic) discloses that the pipes formed from the resin have a good resistance to slow crack growth [0039]. The pipes also have improved long-term creep performance of the polyethylene [0039]. Thus, the examiner feels that the pipes of Duprie (sic) with or without the ionomer have the same properties of the pipes disclosed by the applicant. Thus, the Funkai (sic) reference is merely to show that an ionomer can be added to the composition to provide increased impact resistance."

With respect, that the Examiner "feels that the pipes of Duprie (sic) with or without the ionomer have the same properties of the pipes disclosed by the applicant" is not relevant to the issue of patentability. Rather, the issue is whether Dupire and Funaki would have suggested to one of ordinary skill the surprising discovery of the present invention that improvement is observed by the addition of an ionomer.

As noted in the description of the present application, the metallocene resins B and C used in the Examples thereof were made as described in WO 02/34829. WO 02/34829 is EP 1201713A, and is a "sister" application of Dupire, with the same inventors. The resins disclosed in the two applications are very similar. Thus, while the Examples in the present application do not show the effect of adding ionomer to the

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resins of Dupire, they do show the effect of adding ionomer to almost identical resins. The present Examples show clearly that addition of ionomer results in an improvement in creep resistance, and surprisingly with the largest improvement being present at lower levels of ionomer. This phenomenon is not disclosed or suggested by Dupire and is not suggested by Dupire and Funaki taken together.

Funaki relates fuel hoses for automobiles. Thus, the pipes with which Funaki is concerned are not pressure pipes. There is no suggestion in Funaki of physical properties such as long-term creep and resistance to slow crack growth which are important for pressure pipes, only a discussion of low-temperature impact resistance, which is not a significant issue for a pipe which spends its life underground. Funaki would not, therefore, have been combined with Dupire because Funaki, being limited to fuel hoses, would not have lead the person of ordinary skill to a reasonable expectation that addition of an ionomer in a pressure pipe would improve the performance of the pressure pipe. In other words, Funaki provides no motivation or information with regard to question of whether or not it would have been obvious to one of ordinary skill to add an ionomer to polyethylene used for fabrication of a pressure pipe.

Based on the above, it is clear that one of ordinary skill would not have been motivated to combine Dupire and Funaki. Absent any such motivation, a *prima facie* case of obviousness has not been made out in this case. Reconsideration and withdrawal of the outstanding obviousness rejection are accordingly respectfully requested.

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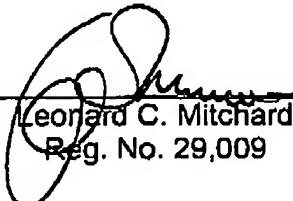
II. CLAIM AMENDMENTS

Minor amendments to the claims are presented to improve their form. No new matter is entered.

Favorable action is awaited.

Respectfully submitted,

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